

Overall: Stations were selected to span the bay geographically, in both the navigation channel and subtidal shallow areas. Data will be used to evaluate variability of erosion characteristics with sediment composition and physical environment (e.g., location in the bay, water depth and shear stress). Stations were selected to span rapidly accumulating areas and subtidal flat areas with both historically high and low rates of accumulation. Stations were also selected to span a range of COPC concentrations.

TABLE 1
SAMPLING STATION DATA AND RATIONALE
Revised Erosion Rate Measurement QAPP
Newark Bay Study Area
October 2012

Station Number	Location		Sedflume Test	Physical Conditions			Chemical Conditions					Sand content and Contaminant Data Station(s)
	X_NJFT	Y_NJFT		Closest Bathy ft	2010 Max Shear Stress (dy/cm ²)	Sand %	2,3,7,8 TCDD pg/g	Total PCBs ug/kg	PCB sum of coplanar congeners (ug/kg)	Mercury mg/kg	DDT ug/kg	
1	597271.512719	686668.116289	In Situ	1.1	3.5	34	324.5	1380.00	8.09	1.4	42.1	2008 CLRC-010
2	599269.769746	685583.620915	In Situ	3.5	4.5	23	613.2	1230.00	6.00	4.0	45.1	2008 CLRC-003
3	597039.252439	684058.292141	In Situ and consolidation	20.8	2.8	29	148.1	651.00	3.25	2.1	37.3	2008 CLRC-005
4	599291.757334	679581.009402	In Situ	6.6	1.6	38	423.0	1070.00	1.99	3.9	299.0	NB02SED093
5	596231.181722	678102.513796	In Situ	2.2	7.2	37	121.7	740.50	1.54	2.8	31.3	Average of NB02SED077, NB02SED076, NB01SED056 and NB01SED051

Station located in subtidal area near Passaic River boundary. Shallow depth increases potential effect of wind-driven waves. Nearby data indicates predominantly muddy sediment with elevated COPCs (except mercury) relative to bay-wide median concentrations. Contrast with Station 3 for indication of variability from shallow vs. deeper water depth.

Station located in subtidal area near Hackensack River boundary. Shallow depth increases potential effect of wind driven waves. Nearby data indicates predominantly muddy sediment with elevated COPCs relative to bay-wide median concentrations. Contrast with Station 3 for indication of variability from shallow vs. deeper water depth.

Station located in channel (subject to verification). Potentially higher contribution of Passaic and Hackensack River sediments. Contrast with Stations 1 and 2 for indication of variability from shallow vs. deeper water depth. Locally higher shear stresses and potentially affected by ship traffic. Likely an area of deposition during elevated Passaic River flow conditions and subject to intra-tidal remobilization and estuarine transport during typical flow conditions. Elevated 2,3,7,8 TCDD and coplanar PCBs compared to bay-wide median values, and total PCBs, mercury, and DDT somewhat higher than the medians. In addition to the SEDFlume core, grab samples of surface sediment will be collected for consolidation experiments. Consolidation results will be used to check parameterization of consolidation model, compare to consolidation of other channel and subtidal sediment, and compare to SEDFlume field core results.

Station is located in subtidal area with elevated COPC concentrations compared to bay-wide medians, especially 2,3,7,8 TCDD and DDT. Station is one of five stations along eastern subtidal flats at roughly 1-mile spacing spanning a range in sand/mud composition.

Station is located in a subtidal area on the west side of the navigation channel. COPC concentrations are elevated relative to bay-wide median concentrations, except DDT which is approximately at the median.

TABLE 1
SAMPLING STATION DATA AND RATIONALE
Revised Erosion Rate Measurement QAPP
Newark Bay Study Area
October 2012

Station Number	Location		Sedflume Test	Physical Conditions				Chemical Conditions					Sand content and Contaminant Data Station(s)
	X_NJFT	Y_NJFT		Closest Bathy ft	2010 Max Shear Stress (dy/cm ²)	Sand %		2,3,7,8 TCDD pg/g	Total PCBs ug/kg	PCB sum of coplanar congeners (ug/kg)	Mercury mg/kg	DDT ug/kg	
6	596893.663521	677932.502541	In Situ and consolidation	38.8	9.7	24		57.6	366.00	0.77	1.6	20.0	Average of NB02SED104 and NB01SED055
7	597449.707431	675083.980873	In Situ	7.0	2.1	67		75.9	291.00	0.63	3.0	92.0	NB01SED045
8	594447.674907	672498.108478	In Situ and consolidation	37.0	3.1	26		51.9	392.75	0.76	1.5	60.5	Average of NB02SED109, NB01SED043, NB01SED042A and NB01SED033A
9	595370.158585	672012.851920	In Situ and consolidation	7.5	1.7	17		89.4	469.00	1.02	2.1	62.0	NB01SED037

Station located at toe of slope of channel (subject to verification). Contrast with Station 5 for indication of variability from shallow vs. deeper water depth. Locally higher shear stresses and potentially affected by ship traffic. Likely an area of deposition and subject to remobilization from ships and tidal currents and estuarine transport. COPC concentrations near or below the bay-wide medians, suggesting potential contribution of new solids. In addition to the SEDFlume core, grab samples of surface sediment will be collected for consolidation experiments. Consolidation results will be used to check parameterization of consolidation model, compare to consolidation of other channel and subtidal sediment, and compare to SEDFlume field core results.

Station is located in subtidal area with 2,3,7,8 TCDD, mercury, and DDT concentrations elevated compared to bay-wide medians and PCBs lower than median. Station is in area with highest sand content (67%) of five stations along eastern subtidal flats at roughly 1-mile spacing.

Station located at toe of slope of channel (subject to verification). Contrast with Station 9 for indication of variability from shallow vs. deeper water depth. Low to moderate shear stresses and potentially affected by ship traffic. Likely an area of deposition and subject to remobilization from ships and tidal currents and estuarine transport. COPC concentrations near or below the bay-wide medians (except for DDT), suggesting potential contribution of new solids. In addition to the SEDFlume core, grab samples of surface sediment will be collected for consolidation experiments. Consolidation results will be used to check parameterization of consolidation model, compare to consolidation of other channel and subtidal sediment, and compare to SEDFlume field core results.

Station is located in subtidal area with 2,3,7,8 TCDD and DDT concentrations elevated compared to bay-wide medians and PCBs and mercury near the median concentrations. Station is in area with lowest sand content (17%) of five stations along eastern subtidal flats at roughly 1-mile spacing. In addition to the SEDFlume core, grab samples of surface sediment will be collected for consolidation experiments. Consolidation results will be used to check parameterization of consolidation model, compare to consolidation of channel sediment, and compare to SEDFlume field core results.

TABLE 1
SAMPLING STATION DATA AND RATIONALE
Revised Erosion Rate Measurement QAPP
Newark Bay Study Area
October 2012

Station Number	Location		Sedflume Test	Physical Conditions				Chemical Conditions					Sand content and Contaminant Data Station(s)
	X_NJFT	Y_NJFT		Closest Bathy ft	2010 Max Shear Stress (dy/cm ²)	Sand %		2,3,7,8 TCDD pg/g	Total PCBs ug/kg	PCB sum of coplanar congeners (ug/kg)	Mercury mg/kg	DDT ug/kg	
10	593502.293107	667608.054567	In Situ	7.4	1.7	19		59.5	473.00	1.03	1.9	22.0	Average of NB02SED091 and NB01SED028
11	585758.396944	663354.169486	In Situ	6.4	2.4	7		592.0	2910.00	7.96	9.5	1000.0	NB01SED019
12	588588.286786	663613.650138	In Situ	6.3	4.4	55		182.0	862.00	1.85	1.7	45.0	NB01SED020
13	589543.997842	662991.963313	In Situ and consolidation	49.8	9.8	23		13.7	286.00	0.50	0.9	21.5	Average of NB02SED113, NB01SED021 and NB01SED017
14	590928.526139	662614.124177	In Situ	5.5	1.4	26		31.3	490.50	0.98	1.3	27.0	Average of NB02SED071 and NB01SED007
Phase I median Concentrations								51.1	482	0.99	2	31	

Station is located in subtidal area with COPC concentrations near bay-wide medians. Station is in area with low sand content (19%) compared to the group of five stations along eastern subtidal flats at roughly 1-mile spacing.

Station is located in shallow subtidal area with high mud content and COPC concentrations well above bay-wide medians, especially for DDT.

Station is located in shallow subtidal area with high sand content and COPC concentrations above bay-wide medians.

Station located at toe of slope of channel (subject to verification). Contrast with Stations 12 and 14 for indication of variability from shallow vs. deeper water depth. Locally high shear stresses and potentially affected by ship traffic. Likely an area of deposition and subject to remobilization from ships and tidal currents and estuarine transport. COPC concentrations are below the bay-wide medians, suggesting potential contribution of new solids. In addition to the SEDFlume core, grab samples of surface sediment will be collected for consolidation experiments. Consolidation results will be used to check parameterization of consolidation model, compare to consolidation of other channel and subtidal sediment, and compare to SEDFlume field core results.

Station is located in subtidal area with COPC concentrations near or below bay-wide medians, suggesting potential contribution from new solids. Station is one of five stations along eastern subtidal flats at roughly 1-mile spacing spanning a range of sand/mud composition.